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Forest Service

FOREST INSECT AND DISEASE MANAGEMENT

Technology Update

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Southern Pine Beetle Fact Sheet
Number 2

USE OF BEETLE-KILLED TIMBER

FOR PULP, PLYWOOD,

AND PANELING

We often hear that southern pine beetle-killed trees cannot be satisfactorily used for pulp or lumber. This is not true! Let's examine the facts. Research results from the USDA Expanded Southern Pine Beetle Research and Applications Program shows that much of the wood is sound enough for various products, including pulp, paper, plywood, and decorative paneling.

In Texas, research shows that beetle-killed pines dead up to 1 year had nearly as much pulp yield as green-cut pines; in Virginia, the time was closer to 2 years. As long as the trees are harvested within these periods, mill operators would suffer only a slight drop in overall yield even if most of their wood came from beetle kills.

Paper quality is a different story. Left dead in the forest 6 months or longer, wood in beetle-killed pines deteriorates and produces paper with lower tensile strength than that from unattacked pines. Not much tearing strength is lost for trees standing dead up to 1 year, but is after that. The longer the trees stand dead in the forest, the lower the quality of the paper.

Average volume for plywood veneer from beetle kills is not significantly lower than that from green-cut pines. Veneer grade and wide sheet development are also similar. For beetle-killed pines dead 90 and 180 days, veneer volume recovery was 86 percent, grade C and better veneer was 62 percent, and wide veneer was 76 percent of that from green-cut pines.

What about gluing quality? Panels from beetle-killed pines dead 45 days in the forest failed all requirements by a narrow margin. Trees dead 180 days passed requirements. To improve gluing results, segregate beetle-killed trees from normal pines and dry them at a reduced temperature. Adhesives and gluing practices may also need to be adjusted.

Another marketing possibility for beetle kills is blue-stained paneling. Marks left by the southern pine beetle and other insects, along with the blue staining, give the paneling enough "character marks" to create a rustic atmosphere in a bar, den, or living room. Two limitations: First, the wood must be strong enough to withstand handling, sawing, and planing. Second, it must be kiln-dried to kill the insects still in the tree after harvesting.

This fact sheet is based on research by Dr. Geza Ifju, Virginia Polytechnic Institute and State University, and by Mr. DeWayne Weldon and Mr. Earl Walters, Texas Forest Products Laboratory, Texas Forest Service.

The findings are based on research conducted through the USDA Expanded Southern Pine Beetle Research and Applications Program.

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